

proven that these changes were due to the same cause, another means of deciding the question as to the cause of the fall growth of wood, or year's rings, would be obtained.

In concluding, the author begs leave to express thanks for all assistance from friends, in the way of material kindly furnished from various sources; especially to Dr. C. S. Sargent and to Mr. Meehan, of Philadelphia.

*Biological Dep't, Univ. of Penn.*

ERRATUM.—Page 252, line 23d from top, should read, According to the place, etc.

## Notes on North American Mosses. I.

CHARLES R. BARNES.

About a year ago, Mr. F. H. Knowlton, of the National Museum, sent me a package of mosses collected in August, 1887, by William Palmer, mostly on the Mingan Islands, which lie between Anticosti and the southern shore of Labrador. As the publication of the bulletin concerning this collection is delayed, it is thought best to publish the list in the GAZETTE. It includes one new species.

1. *Sphagnum papillosum* Lindb. In wet woods mixed with No. 8. St. Johns, Newfoundland.

2. *Gymnostomum rupestre* Schleicher (1807). On limestone cliffs, Mingan. This is one of the forms of this polymorphous species approaching *G. curvirostrum* closely, but it seems hardly worth while to give it a name.

3. *Dicranum undulatum* Ehrhart. Sand beaches, among trees, Mingan. This is the *D. undulatum* of Lesquereux and James's Manual. *D. undulatum* Turner is *D. Bonjeani* De Not.

4. *Bryum inclinatum* Br. & Sch. On limestone cliffs, Mingan.

5. BRYUM KNOWLTONI. (§ *Cladodium*.)

Plants densely cespitose; tufts 1–2 cm. deep, interwoven with red-brown rhizoids, mottled. Stems copiously branched by innovations, reddish. Leaves closely imbricate in bud-like tufts at the top of the innovations, not twisted when dry, the youngest bright green, the older dirty yellow, 1.5–2.0 mm. long, 0.60–0.75 mm. wide, carinate concave, ovate- to obovate-lanceolate, the lower shorter, the upper narrower, all

abruptly and shortly acuminate; costa shortly excurrent, or dissolving in or ceasing just below the apex; margin entire or rarely slightly denticulate here and there, slightly revolute or plane, border usually indistinct (when present of one or two rows of narrow cells not thickened); cells rectangular and hyaline below, rhomboidal and densely chlorophyllose above. Flowers polygamous. Seta paler above, flexuous and flattened when dry, not twisted, about 1 cm. long; capsule red-brown or paler, rugose, pendent, oblong-pyriform; operculum small, strongly convex, apiculate, long persistent, not polished; annulus triple, revoluble; teeth of the peristome linear-lanceolate, strongly barred within, .050-.060 mm. wide, .320 mm. long, smooth above, segments of the endostome free, strongly nodose, split between along the keel, cilia two, rudimentary. Spores smooth, .024-.027 mm. diameter.

Crevices in rocks, Funk Island, Newfoundland.

This beautiful species, named for the gentleman who communicated the specimens, differs from its nearest allies in the following particulars:

From *B. pendulum* Schimp. in the longer collum and shorter pointed lid, the free nodose endostome, the short seta, the smaller spores, and the almost immarginate short-pointed imbricate leaves.

From *B. inclinatum* Br. & Sch. in the free nodose endostome, the persistent lid, the short seta, the almost immarginate leaves with less revolute edges and uncolored costa.

From *B. lacustre* Brid. in the long much-branched stems, appressed leaves, shorter seta, slender nearly naked vaginule and polygamous flowers.

Type specimens have been deposited in the herbaria of the National Museum, Harvard University and Columbia College.

6. *Polytrichum piliferum* Schreb. Under spruce, mixed with No. 8, Mingan.

7. *Polytrichum juniperinum* Willd. Mingan.

8. *Polytrichum juniperinum* Willd., var. *strictum* Wallm. (*P. strictum* Banks.) Mingan and St. Johns, Newfoundland.

*Madison, Wis.*

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## BRIEFER ARTICLES.

**A few Cape Cod plants.**—A two weeks' visit at Hyannisport, in the township of Barnstable, on the south shore of Cape Cod, Mass., in the latter half of August, 1888, revealed to me a most charming flora, a brief mention of which may be of interest. Though it is a ride of but three hours in the cars from Boston, yet the characteristic flowers are very different, as you are beginning to reach the northern limit of many plants